

**MAGNESIUM METAL STATISTICS**  
**By Carl A. DiFrancesco and Deborah A. Kramer**  
**[All values in metric tons (t) unless otherwise noted]**

| <b>Year</b> | <b>Primary<br/>production</b> | <b>Secondary<br/>production</b> | <b>Imports</b> | <b>Exports</b> | <b>Government<br/>shipments</b> | <b>Stocks</b> | <b>Apparent<br/>consumption</b> | <b>Unit value<br/>(\$/t)</b> | <b>Unit value<br/>(98\$/t)</b> | <b>World<br/>production</b> |
|-------------|-------------------------------|---------------------------------|----------------|----------------|---------------------------------|---------------|---------------------------------|------------------------------|--------------------------------|-----------------------------|
| 1915        | 39.7                          |                                 |                |                |                                 |               | 39.7                            | 11,100                       | 178,000                        |                             |
| 1916        | 34.2                          |                                 |                |                |                                 |               | 34.2                            | 9,100                        | 136,000                        |                             |
| 1917        | 52.5                          |                                 |                |                |                                 |               | 52.5                            | 4,450                        | 56,700                         |                             |
| 1918        | 129                           |                                 | 5.40           |                |                                 |               | 134                             | 3,990                        | 43,200                         |                             |
| 1919        | 57.8                          |                                 | 6.00           |                |                                 |               | 63.8                            | 4,030                        | 38,000                         |                             |
| 1920        | 56.2                          |                                 | 13.00          |                |                                 |               | 69.2                            | 3,530                        | 28,700                         |                             |
| 1921        | 21.8                          |                                 | 18.00          |                |                                 |               | 39.8                            | 3,530                        | 32,100                         |                             |
| 1922        | 27.2                          |                                 | 83.00          |                |                                 |               | 110                             | 3,530                        | 34,300                         |                             |
| 1923        | 56.7                          |                                 | 6.00           |                |                                 |               | 63.0                            | 2,760                        | 26,300                         |                             |
| 1924        | 58.1                          |                                 | 4.00           |                |                                 |               | 62.0                            | 2,360                        | 22,500                         |                             |
| 1925        | 111                           |                                 | 4.00           |                |                                 |               | 115                             | 1,900                        | 17,600                         |                             |
| 1926        | 146                           |                                 | 5.00           |                |                                 |               | 151                             | 1,760                        | 16,300                         |                             |
| 1927        | 166                           |                                 | 3.00           |                |                                 |               | 169                             | 1,500                        | 14,100                         |                             |
| 1928        | 241                           |                                 | 5.00           | 2.00           |                                 |               | 244                             | 1,210                        | 11,500                         |                             |
| 1929        | 412                           |                                 | 2.00           | 52.0           |                                 |               | 362                             | 1,260                        | 12,000                         |                             |
| 1930        | 254                           |                                 | 3.00           | 38.0           |                                 |               | 219                             | 1,060                        | 10,300                         |                             |
| 1931        | 263                           |                                 | 1.00           | 58.0           |                                 |               | 206                             | 661                          | 7,080                          |                             |
| 1932        | 359                           |                                 | 0.424          | 77.0           |                                 |               | 283                             | 639                          | 7,630                          |                             |
| 1933        | 651                           |                                 | 0.261          | 199            |                                 |               | 452                             | 617                          | 7,760                          |                             |
| 1934        | 1,930                         |                                 | 0.300          | 291            |                                 |               | 1,637                           | 573                          | 6,980                          |                             |
| 1935        | 1,920                         |                                 | 0.401          | 953            |                                 |               | 971                             | 573                          | 6,810                          |                             |
| 1936        | 1,770                         |                                 | 1.00           | 390            |                                 |               | 1,382                           | 573                          | 6,740                          |                             |
| 1937        | 2,060                         |                                 | 1.00           | 276            |                                 |               | 1,784                           | 661                          | 7,500                          | 19,600                      |
| 1938        | 2,920                         |                                 | 0              | 1,130          |                                 |               | 1,786                           | 661                          | 7,650                          | 23,900                      |
| 1939        | 3,040                         |                                 | 0              | 2,020          |                                 |               | 1,020                           | 661                          | 7,760                          | 29,400                      |
| 1940        | 5,680                         |                                 | 0              | 779            |                                 |               | 4,900                           | 595                          | 6,920                          | 37,800                      |
| 1941        | 14,800                        | 14.0                            | 0              | 1,410          |                                 |               | 13,400                          | 507                          | 5,620                          | 59,800                      |
| 1942        | 44,400                        | 79.0                            | 1.00           | 3,670          |                                 |               | 40,829                          | 507                          | 5,080                          | 105,000                     |
| 1943        | 167,000                       | 136                             | 0              | 36,700         |                                 | 21,800        | 130,000                         | 463                          | 4,360                          | 238,000                     |
| 1944        | 143,000                       | 190                             | 55.0           | 22,000         |                                 |               | 121,000                         | 463                          | 4,290                          | 218,000                     |
| 1945        | 29,700                        | 748                             | 52.0           | 1,250          |                                 |               | 29,298                          | 463                          | 4,190                          | 62,000                      |
| 1946        | 4,820                         | 1,100                           | 219            | 278            |                                 |               | 5,863                           | 463                          | 3,870                          | 24,000                      |
| 1947        | 11,200                        | 4,170                           | 183            | 322            |                                 |               | 15,228                          | 463                          | 3,380                          | 32,000                      |
| 1948        | 9,080                         | 3,800                           | 615            | 403            |                                 |               | 13,086                          | 463                          | 3,140                          | 31,000                      |
| 1949        | 10,500                        | 2,670                           | 2,320          | 642            |                                 |               | 14,900                          | 463                          | 3,170                          | 34,000                      |
| 1950        | 14,300                        | 4,510                           | 787            | 824            |                                 |               | 1,870,000                       | 551                          | 3,730                          | 45,600                      |
| 1951        | 37,100                        | 5,590                           | 3,610          | 690            |                                 |               | 4,560,000                       | 551                          | 3,460                          | 82,600                      |

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|-------------|-------------------------------|---------------------------------|----------------|----------------|---------------------------------|---------------|---------------------------------|------------------------------|--------------------------------|-----------------------------|
| 1952        | 96,000                        | 6,570                           | 272            | 1,090          |                                 |               | 10,200,000                      | 595                          | 3,660                          | 150,000                     |
| 1953        | 84,400                        | 5,480                           | 2,220          | 2,690          |                                 | 15,400        | 89,400                          | 595                          | 3,630                          | 153,000                     |
| 1954        | 63,300                        | 2,950                           | 673            | 2,990          |                                 | 22,200        | 58,100                          | 617                          | 3,740                          | 119,000                     |
| 1955        | 55,500                        | 4,130                           | 1,690          | 7,690          |                                 | 26,900        | 47,900                          | 716                          | 4,370                          | 121,000                     |
| 1956        | 62,000                        | 4,860                           | 595            | 3,570          |                                 | 30,200        | 60,600                          | 777                          | 4,660                          | 103,000                     |
| 1957        | 73,700                        | 4,590                           | 930            | 1,450          |                                 | 63,400        | 44,600                          | 799                          | 4,630                          | 117,000                     |
| 1958        | 27,300                        | 4,330                           | 510            | 954            |                                 | 52,600        | 42,000                          | 799                          | 4,510                          | 71,200                      |
| 1959        | 28,200                        | 4,460                           | 585            | 2,170          |                                 | 37,100        | 46,600                          | 799                          | 4,470                          | 74,700                      |
| 1960        | 36,400                        | 3,940                           | 393            | 4,660          |                                 | 24,400        | 48,700                          | 799                          | 4,400                          | 92,900                      |
| 1961        | 37,000                        | 4,280                           | 944            | 6,060          |                                 | 7,930         | 52,600                          | 799                          | 4,350                          | 105,000                     |
| 1962        | 62,600                        | 2,850                           | 2,220          | 6,390          |                                 | 9,190         | 60,000                          | 799                          | 4,310                          | 134,000                     |
| 1963        | 68,800                        | 1,990                           | 2,140          | 14,700         | 3,150                           | 16,800        | 53,800                          | 799                          | 4,260                          | 143,000                     |
| 1964        | 72,100                        | 3,730                           | 2,490          | 15,300         | 4,160                           | 19,500        | 64,500                          | 799                          | 4,200                          | 151,000                     |
| 1965        | 73,800                        | 3,330                           | 2,700          | 16,600         | 2,400                           | 14,100        | 71,100                          | 799                          | 4,130                          | 162,000                     |
| 1966        | 72,400                        | 4,120                           | 3,590          | 14,000         | 20,600                          | 10,200        | 90,500                          | 799                          | 4,010                          | 163,000                     |
| 1967        | 88,400                        | 3,730                           | 8,820          | 12,000         | 0                               | 11,700        | 87,500                          | 799                          | 3,900                          | 185,000                     |
| 1968        | 89,200                        | 3,150                           | 4,360          | 17,700         | 2,720                           | 9,020         | 84,500                          | 799                          | 3,740                          | 189,000                     |
| 1969        | 90,600                        | 2,710                           | 3,920          | 24,800         | 24,000                          | 11,400        | 94,000                          | 799                          | 3,550                          | 198,000                     |
| 1970        | 102,000                       | 2,520                           | 2,990          | 32,400         | 13,200                          | 11,500        | 87,800                          | 799                          | 3,350                          | 220,000                     |
| 1971        | 112,000                       | 2,850                           | 3,330          | 22,100         | 644                             | 13,400        | 94,900                          | 799                          | 3,220                          | 232,000                     |
| 1972        | 110,000                       | 2,710                           | 4,060          | 15,900         | 7,020                           | 20,900        | 100,000                         | 821                          | 3,200                          | 234,000                     |
| 1973        | 111,000                       | 3,720                           | 3,020          | 35,900         | 60,500                          | 17,100        | 146,000                         | 843                          | 3,090                          | 240,000                     |
| 1974        |                               | 5,190                           | 4,810          | 42,100         | 19,000                          |               |                                 | 1,650                        | 5,460                          | 130,000                     |
| 1975        | 109,000                       | 8,880                           | 7,170          | 29,600         |                                 | 35,500        |                                 | 1,810                        | 5,480                          | 235,000                     |
| 1976        | 109,000                       | 10,500                          | 13,500         | 12,200         |                                 | 50,700        | 105,000                         | 2,030                        | 5,810                          | 249,000                     |
| 1977        | 114,000                       | 11,400                          | 5,410          | 25,500         |                                 | 47,100        | 109,000                         | 2,180                        | 5,870                          | 257,000                     |
| 1978        | 136,000                       | 12,800                          | 6,050          | 37,900         |                                 | 45,700        | 118,000                         | 2,230                        | 5,570                          | 288,000                     |
| 1979        | 147,000                       | 12,600                          | 4,310          | 49,200         |                                 | 40,000        | 121,000                         | 2,400                        | 5,400                          | 307,000                     |
| 1980        | 154,000                       | 15,900                          | 3,410          | 51,500         |                                 | 44,700        | 117,000                         | 2,760                        | 5,450                          | 316,000                     |
| 1981        | 140,000                       | 21,900                          | 6,260          | 31,600         |                                 | 56,800        | 124,000                         | 2,950                        | 5,300                          | 308,000                     |
| 1982        | 92,700                        | 21,300                          | 4,340          | 35,900         |                                 | 43,400        | 95,700                          | 3,090                        | 5,210                          | 254,000                     |
| 1983        | 105,000                       | 22,400                          | 5,760          | 42,400         |                                 | 25,100        | 109,000                         | 3,040                        | 4,980                          | 260,000                     |
| 1984        | 144,000                       | 24,300                          | 8,510          | 43,900         |                                 | 31,400        | 127,000                         | 3,260                        | 5,120                          | 328,000                     |
| 1985        | 136,000                       | 23,500                          | 8,410          | 36,900         |                                 | 39,300        | 123,000                         | 3,370                        | 5,110                          | 325,000                     |
| 1986        | 126,000                       | 23,000                          | 8,360          | 39,900         |                                 | 39,300        | 117,000                         | 3,370                        | 5,020                          | 322,000                     |
| 1987        | 124,000                       | 23,500                          | 10,900         | 44,200         |                                 | 28,500        | 125,000                         | 3,370                        | 4,840                          | 324,000                     |
| 1988        | 142,000                       | 27,600                          | 14,400         | 49,800         |                                 | 24,800        | 138,000                         | 3,590                        | 4,950                          | 334,000                     |

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|-------------|-------------------------------|---------------------------------|----------------|----------------|---------------------------------|---------------|---------------------------------|------------------------------|--------------------------------|-----------------------------|
| 1989        | 152,000                       | 28,000                          | 12,300         | 56,600         |                                 | 26,300        | 134,000                         | 3,590                        | 4,730                          | 344,000                     |
| 1990        | 139,000                       | 31,100                          | 26,800         | 51,800         |                                 | 26,000        | 146,000                         | 3,150                        | 3,930                          | 354,000                     |
| 1991        | 131,000                       | 27,500                          | 31,900         | 55,200         |                                 | 27,000        | 134,000                         | 3,150                        | 3,770                          | 342,000                     |
| 1992        | 137,000                       | 30,900                          | 11,800         | 52,000         |                                 | 13,000        | 142,000                         | 3,310                        | 3,840                          | 295,000                     |
| 1993        | 132,000                       | 30,600                          | 37,200         | 38,800         |                                 | 26,000        | 148,000                         | 3,210                        | 3,620                          | 269,000                     |
| 1994        | 128,000                       | 29,600                          | 29,100         | 45,200         |                                 | 20,000        | 148,000                         | 3,590                        | 3,950                          | 281,000                     |
| 1995        | 142,000                       | 29,700                          | 34,800         | 38,300         |                                 | 21,000        | 167,000                         | 4,610                        | 4,930                          | 395,000                     |
| 1996        | 133,000                       | 30,100                          | 46,600         | 40,500         |                                 | 26,000        | 164,000                         | 3,860                        | 4,010                          | 368,000                     |
| 1997        | 125,000                       | 30,500                          | 65,100         | 40,500         |                                 | 21,000        | 185,000                         | 3,640                        | 3,700                          | 378,000                     |
| 1998        | 106,000                       | 31,800                          | 82,500         | 35,400         |                                 | 22,000        | 184,000                         | 3,460                        | 3,460                          | 369,000                     |

# Magnesium Metal Worksheet Notes

## Data Sources

The sources of data for the magnesium metal worksheet are the mineral statistics publications of the U.S. Bureau of Mines and the U.S. Geological Survey—Minerals Yearbook (MYB) and its predecessor, Mineral Resources of the United States (MR) and Metal Prices in the United States through 1998 (MP98). The years of publication and corresponding years of data coverage are listed in the References section below. Blank cells in the worksheet indicate that data either were not available or were being withheld because they are proprietary.

## Production

Production data were for magnesium metal in the United States. Magnesium was first produced commercially in the United States in 1915. Data were from the MR and the MYB. A blank cell for the year 1974 indicates that the datum was proprietary.

## Secondary Production

Secondary production includes secondary from old scrap (scrap including—but not limited to—metal articles that have been discarded after serving a useful purpose). Data were from the MR and the MYB. Blank cells in the worksheet indicate that data were not available for the years 1915–40.

## Imports

Import data report the amount of magnesium metal imported into the United States. Data were from the MR and the MYB. Blank cells in the worksheet indicate that data were not available for the years 1915–17.

## Exports

Export data report the amounts of magnesium metal exported from the United States. Data were from the MR and the MYB. Blank cells in the worksheet indicate that data were not available for the years 1915–27.

## Government Shipments

Government shipment data were for shipments from the government stockpile. Data were from the MR and the MYB. Blank cells in the worksheet indicate that data were not available for the years 1915–62, and 1975–98.

## Stocks

Stocks data report the amount of magnesium metal held in stocks at the end of the year. Data were from the MR and the MYB. Blank cells in the worksheet indicate that data were not available for the years 1915–42 and 1944–52. Stock data were withheld in 1974.

## Apparent Consumption

Apparent consumption was estimated for the years 1915–98 by using the formula:

$$\text{APPARENT CONSUMPTION} = \text{PRODUCTION (PRIMARY + SECONDARY)} + \text{IMPORTS} - \text{EXPORTS} \pm \text{GOVERNMENT SHIPMENTS} \pm \text{CHANGES IN STOCKS}.$$

Blank cells in the worksheet indicate that data were withheld for 1974–75.

## Unit Value (\$/t)

Unit value is the value in dollars of 1 metric ton (t) of magnesium metal apparent consumption. Unit value was estimated for the United States in actual dollars by using price data from the MP98 for primary magnesium.

## Unit Value (98\$/t)

Dividing the Consumer Price Index conversion factor with 1998 as the base year into the “Unit Value,” determined previously, results in unit value in constant 1998 U.S. dollars.

## World Production

World production data were for primary magnesium produced. Data were from the MR and the MYB. Blank cells in the worksheet indicate that data were not available for the years 1915–36.

## References

U.S. Bureau of Mines, 1927–34, Mineral Resources of the United States, 1924–31.  
———1933–96, Minerals Yearbook, 1932–94.  
U.S. Geological Survey, 1916–27, Mineral Resources of the United States, 1915–23.

———1997–2000, Minerals Yearbook, v. 1, 1995–98.

———1999, Metal Prices in the United States through 1998.

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